

What is claimed is:

1. A method, comprising:
  - automatically enforcing user compliance with a plurality of predetermined steps of a computer-assisted verification test of a safety feature for a machine system;
  - inducing an error condition in the machine system; and
  - collecting data regarding a response of the machine system to the error condition.
2. The method of claim 1, further comprising:
  - providing a user interface for selecting a stage of development for the machine system.
3. The method of claim 1, further comprising:
  - receiving a user selection of a stage of development for the machine system.
4. The method of claim 1, further comprising:
  - providing a user interface for selecting the verification test from a plurality of potential computer-assisted verification tests.
5. The method of claim 1, further comprising:
  - providing a user interface for selecting the verification test from a plurality of potential computer-assisted verification tests, the plurality of potential computer-assisted verification tests limited by a stage of development of the machine system.

6. The method of claim 1, further comprising:  
receiving a user selection of the verification test from a plurality of potential computer-assisted verification tests.
7. The method of claim 1, further comprising:  
providing a user interface for selecting a sequential ordering of a plurality of computer-assisted verification tests to perform, the plurality of computer-assisted verification tests comprising the verification test.
8. The method of claim 1, further comprising:  
receiving a user selection of a sequential ordering of a plurality of computer-assisted verification tests to perform, the plurality of computer-assisted verification tests comprising the verification test.
9. The method of claim 1, further comprising:  
providing a user interface for configuring the verification test.
10. The method of claim 1, further comprising:  
receiving a user-selected configuration for the verification test.
11. The method of claim 1, further comprising:  
providing instructions for the verification test.
12. The method of claim 1, further comprising:  
providing instructional information to a user performing the verification test.

13. The method of claim 1, further comprising:  
    setting-up one or more initial conditions for the verification test.
14. The method of claim 1, further comprising:  
    prompting a user to perform a step from the plurality of predetermined steps  
    of the verification test.
15. The method of claim 1, further comprising:  
    resetting the error condition.
16. The method of claim 1, further comprising:  
    resetting a data collector.
17. The method of claim 1, further comprising:  
    placing the numerically controlled machine tool in a test mode;
18. The method of claim 1, further comprising:  
    verifying that the verification test succeeded;
19. The method of claim 1, further comprising:  
    facilitating human verification that the verification test succeeded.
20. The method of claim 1, further comprising:  
    monitoring the verification test.

21. The method of claim 1, further comprising:  
collecting data regarding the plurality of predetermined steps performed during the verification test.
22. The method of claim 1, further comprising:  
collecting data regarding an error condition generated during the verification test.
23. The method of claim 1, further comprising:  
rendering the collected data.
24. The method of claim 1, further comprising:  
analyzing the collected data.
25. The method of claim 1, further comprising:  
processing the collected data.
26. The method of claim 1, further comprising:  
updating a status of the verification test after correction of a problem.
27. The method of claim 1, further comprising:  
merging verification test information with a standardized template to create a report.
28. The method of claim 1, further comprising:  
generating a report of the verification test.

29. The method of claim 1, further comprising:

generating a report of the verification test, the report comprising an identity of the verification test performed.

30. The method of claim 1, further comprising:

generating a report of the verification test, the report comprising an identity of the plurality of predetermined steps.

31. The method of claim 1, further comprising:

generating a report of the verification test, the report comprising a description of the plurality of predetermined steps.

32. The method of claim 1, further comprising:

generating a report of the verification test, the report comprising initial conditions.

33. The method of claim 1, further comprising:

generating a report of the verification test, the report comprising the error condition induced.

34. The method of claim 1, further comprising:

generating a report of the verification test, the report comprising the data collected.

35. The method of claim 1, further comprising:

generating a report of the verification test, the report comprising analysis of the collected data.

36. The method of claim 1, wherein user compliance is enforced via a graphical user interface.
37. The method of claim 1, wherein the collected data comprise status data.
38. The method of claim 1, wherein the collected data comprise alarm data.
39. The method of claim 1, wherein the collected data comprise a trace.
40. The method of claim 1, wherein the machine system comprises a machine tool.
41. The method of claim 1, wherein the machine system comprises a numerical controller.
42. A system, comprising:  
    a compliance processor adapted to automatically enforce user compliance with a plurality of predetermined steps of a computer-assisted verification test of a safety feature for a machine system;  
    an error processor adapted to induce an error condition in the machine system;  
    a data processor adapted to collect data regarding a response of the machine system to the error condition.

43. A machine-readable medium containing instructions for activities comprising:
- automatically enforcing user compliance with a plurality of predetermined steps of a computer-assisted verification test of a safety feature for a machine system;
  - inducing an error condition in the machine system;
  - collecting data regarding a response of the machine system to the error condition.